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INNOVATION IN STUDENT DISCUSSION RELATED PROCEDURES.

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THIS PAPER REPORTS "TREND" DATA FROM QUESTIONNAIRES, RATING FORMS, AND COMPARATIVE STUDIES OF STUDENT-DIRECTED GROUP DISCUSSIONS IN COLLEGE PSYCHOLOGY COURSES. THE PAPER WAS READ AT THE AMERICAN PSYCHOLOGICAL ASSOCIATION CONVENTION, SEPTEMBER 2, 1966, NEW YORK. (LH)

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Paper read at American Psychological Association Convention
September 2, 1966, New York

Innovation in Student Discussion and Related Procedures[1]

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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The development of student-directed discussions at St. Norbert has evolved from earlier trials at instructional innovation in the teaching of psychology. In 1963, we began experimenting with a procedure where students prepared and tape recorded their own course lectures (Webb, 1965). Major deterrents in the effective use of the student lecture method were the absence of a live audience and the demanding task for the teacher in responding to the large bulk of student lectures. Consequently, student lecturing was replaced by having small groups of 4 or 5 students instruct each other by their discussion of course materials. The common unifying theme for both approaches was the old idea that one learns by teaching.

Many remnants of the earlier student lecturing approach were continued in the newer student discussions. For example, discussion sessions were routinely tape recorded and made available to the teacher for later study. The instructor was stationed at a monitoring console, where he could be called to assist a group during difficulty, or where he could listen to portions of the ongoing student discussions. Student preparation for the discussions were aided by guide sheets which showed what the instructor thought was important by asking questions and by providing an annotated list of source material. Usually after the discussion meetings the students gathered for a feedback session with their instructor. These feedback sessions were devoted to answering student questions, probing the depth of student comprehension of the material, and offering an opportunity for instructor and student interaction. An added feature of the

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newer method was the frequent use of brief, Instructional Method Rating Forms which required the group members to judge the effectiveness of their discussions on several important variables.

The procedures just described resemble the student-led discussion approach of Leuba (1963) and somewhat less the instructorless student groups of Beach (1961). Perhaps the most noticeable difference in our method, however, concerns the more active and directive role of the teacher. Typically the instructor would not only monitor either the live or taped session, but he would also respond to both the content and the manner of approach of the discussion. Likewise, the practice of having periodic lectures by the instructor further accentuated his more active role.

Initially, we used student discussion groups in several psychology courses, including Theories of Personality, Learning, Abnormal, and Psychological Statistics. During the past year, with the assistance of a research contract from the U. S. Office of Education, we have expanded our project to include about five hundred students in eleven different courses representing several academic departments. Our first project year has been devoted primarily to trying new approaches and techniques and tailoring discussion methods to a variety of academic courses. In addition, we have completed five comparative studies, using control group designs, and pitting student discussion methods against more traditional instructional procedures. (Table 1) In each of the five comparative studies we have found that the experimental groups (discussion groups) performed slightly better than the control groups (traditional) on criterion achievement measures. However, in only one course (Psychological Statistics) were the differences great enough to be considered statistically reliable.

These preliminary results are in agreement with those reported by Beach (1965) and the more general findings of Gruber (1965). Gruber's summary of the research findings on self-directed study procedures might have been written for

our project as well. He states that when learning of course content is the criterion of efficacy the results generally show no powerful arguments for or against either self-directed study or conventional methods. Our results are also in agreement with Leuba's who found that students using student-led discussions achieved slightly more A's and B's and fewer D's and F's (Table 2). In our experience, the grade distribution on final examination typically moves upward, with the noticeable reduction of the variance due to the elimination of very low grades.

Overall, there has been a remarkable enthusiasm by both students and instructors for a continuation of student-directed discussions. Seventy-nine percent of the 302 students who have annonymously completed the End of Course Questionnaire indicated a preference for future courses taught using student-led discussions. All of the instructors who have participated, thus far, plan to continue using the new method in subsequent courses.

In one part of the End of Course Questionnaire, students were asked to agree or disagree with a series of statements comparing the discussions with other methods of instruction. The principle advantages which emerge from a tabulation of statements agreed with by at least sixty-six percent of those answering are as follows: 1) In relation to other methods, the discussions placed more emphasis on comprehension and understanding and less on memorization (97%). 2) In the interaction during discussion, students came to see several other points of view (92%). 3) The students' own ideas were clarified in the process of discussing with others (90%). 4) The discussions forced students to think and organize their ideas (85%). 5) As a result of the discussion students were more actively involved in their own learning (85%). 6) The discussions generally forced more thorough preparation than regular class meetings (83%). 7) The discussions led to a greater interest in the subject matter of the course when compared with other methods (75%).

There was also a free response portion of the same questionnaire where some additional advantages were mentioned. The most frequent advantage appearing here was the free and relaxed atmosphere of the student meetings. Students reported feeling more free than usual to ask questions, express themselves verbally, and to disagree or challenge the statements of others. The necessity of explaining their own position to fellow students changed class preparation away from memorizing to more thinking through of the material. Several students believed that the active interchange of the small group meetings helped them to become more quickly aware of their own incomplete or inadequate understanding of the materials. They characterized the discussion meetings as a relief from the more passive attendance at lectures.

The instructors in the project repeated most of the advantages already listed by the students, and added some observations of their own. The improved communication between students and teachers was particularly stressed. The opportunity to listen as students discussed course materials in the relaxed atmosphere of a peer group was found to be very informative. The instructors came to know better what their students were thinking about and where they were having difficulties.

There were also auxillary gains not directly related to a specific course and not measured by examinations. The development of skills in critical thinking was most commonly cited. Greater facility in verbal expression and gains in the ability to work cooperatively with others were also mentioned. As a result of the interchange of ideas during discussions several students reported discovering a broadened range of interests and greater respect for the ideas of others.

In summary, our questionnaire and interview data support another generalisation about self-directed study made by Gruber. He maintains that when the criterion of efficacy is a group of attitudinal changes such as critical thinking, curiosity, and so forth the comparative findings are more obviously favorable.

It was continually distressing for us to find many students who believed they had gained a depth of understanding and a facility in applying knowledge to practical situations that had not been measured by our criterion examinations. Their criticism calls for new and much more inventive ways to test differential achievement.

Considering these problems in evaluation, the relative newness of student-led discussions, and the many potential variations possible from the basic procedures, it is probably too early for comparative studies. Instead, we need studies aimed at identifying the important variables and at finding the most potent combinations for student group learning. These and related problems will be covered in the paper by Grib (1966).

In the time remaining I would like to present the main disadvantages and problems we have encountered with student discussions, describe what we have done to try to solve them, and detail the innovations we have planned.

One of the important advantages in any type of student-directed learning is an increase in the student's responsibility for his own learning. Our experience has shown that this shift in responsibility does not automatically accompany the use of student-led discussions. Students who have for years depended on teachers to tell them the "right" answers find this increased responsibility difficult to accept. This is especially true at a college where the prevailing student culture does not encourage independent intellectual inquiry. Thus, the most common disadvantage reported by our students was the absence of the instructor. Students express the fear that they would mislead one another, reach faulty or incorrect conclusions, or focus on the nonessentials in their group discussions. It has become obvious to us that a single experimental course taken in conjunction with several regular courses does not have enough impact to shake the student from what Gruber has called "a learned strategy of passive acquiescence in uncritically assimulating the material the teacher thinks important." (1965 p.3)

Probably our best hope for solution lies in decreasing the number of courses where the student is reinforced for his habits of passive acquiescence. An interim solution has been to gradually increase student responsibility. Instructors now discuss the responsibility issue before the first discussion meeting. They point out that the advantages in discovering how to learn for oneself outweigh the risks of an occasional incorrect answer. The practice of having students participate in making up discussion questions and asking them to indicate to the instructor those portions of their taped discussion that he should listen to, also have been gradual moves toward more student responsibility. A general practice of heavier instructor monitoring during the early discussions and less guidance as the semester progresses is another way of transferring responsibility to the student.

Another continuing problem is that of student preparation for the discussions. Even though 83% of the students report their class preparation increased while participating in discussion groups the increase was often not enough. Students and instructors alike overwhelmingly agree that adequate preparation is essential for effective discussion. The discouragement experienced by those adequately prepared in a group where others are not, is pictured as a major block to group progress. In addition to stressing preparation in both a Student Manual for Effective Discussion and in the instructor's introductory remarks we have tried other approaches. The Instructional Method Rating Form has questions concerning a student's own preparation. Sometimes, with the information provided by the ratings, discussion groups were rearranged. Whenever possible students were encouraged to exert group pressure on those who did not prepare. Another effective motivator was for the instructor to be explicit about how activities during discussion were related to course grades.

The effectiveness of a group was also determined by its composition. Students objected when discussion was dominated by one or two members; others believed

that personality conflicts within certain groups prevented them from attaining their full potential. The unequal ability level of members in some groups made the better students feel that depth of coverage was retarded by the slower members. In an effort to remedy the problems of group composition we have tried both random and rational assignment of members to groups. The best procedure is not yet evident from the results of these variations.

We have innovations planned to remedy these difficulties. For example, during the past year some instructors have tape recorded all of their lectures and regular class meetings. During the summer they edited the tapes and improved the lectures, retaping many of them. In the fall, this series of tapes will be available to the small student groups for listening. As they listen together the group members may choose to stop the tape to clarify points, to discuss difficult material, or to record questions. The student-directed discussion sessions will take place after the students have listened to the taped lectures and read the suggested materials. The instructor, now free from lecture preparation and class meetings, will devote his time to meeting informally with the small groups. Each autonomous, discussion group will proceed at its own pace with progress being checked by rating instruments, instructor monitoring, and by testing.

We also plan on continuing our thus far unsuccessful efforts at classifying effective discussion procedures. Even casual listening to student groups reveals differences in discussion techniques and suggests some procedures are better than others. We would like to be able to relate certain procedures to success in learning and do it empirically.

In attempting to summarize the results of our first year's work we are driven to a phrase which has become a cliche in educational research--"Promising results in the expected direction but few significant differences." But after a consideration of how difficult and fundamental are the desired changes in

student intellectual habits, we should not expect startling results. How could a single experimental course change intellectual habits of passive acquiescence established over years of schooling? I believe Gruber (1965) has a good suggestion. He sees these fundamental changes coming only after more wide spread and consistent efforts are directed toward making intellectual self reliance a powerful tradition on campus rather than just a transient temptation.

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Tables for Division 2. Symposium: Recent Developments in Student-led Discussion
APA New York, 1966

Neil J. Webb and Thomas F. Grib, St. Norbert College, Cooperative Research Contract No. O.E.-6-10-244.

Table 1

Comparison of Final Course Averages for Student Discussion 2nd Control Treatments: 1965 & 1966 Studies

Course		Group: Student Discussion Mean	SD	Group: Control Procedures Mean	SD	Differences	Value of t
Social Psych.	('65)	83.42	4.95	82.99	5.40	.43	.32
Psych. Statistics	('65)	63.62	8.50	59.47	15.12	4.15	1.39*
Psych. Statistics	('66)	77.00	5.74	71.21	14.30	5.79	1.84**
Philosophy of Man	('65)	78.61	7.00	78.27	7.95	.34	.02
Philosophy of Man	('66)	82.78	5.92	81.28	7.08	1.50	1.03

*significant at .10 level
**significant at .05 level

Table 2

Comparison of Percentage of Final Letter Grades for Student Discussion and Control Treatments: 1965 & 1966 Studies

Final Course Grade	Group: Student Discussions N=142	Group: Control Procedures N=153
A	8%	8%
B	31%	27%
C	50%	46%
D	10%	13%
F	1%	6%

Instructional Method Rating Form

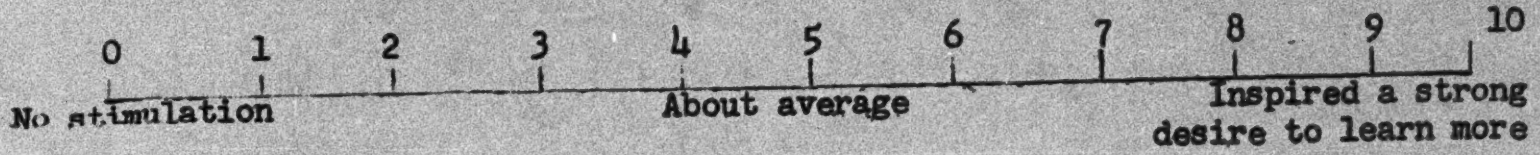
Course Title_____ Instructor_____

Group Letter_____ Date_____

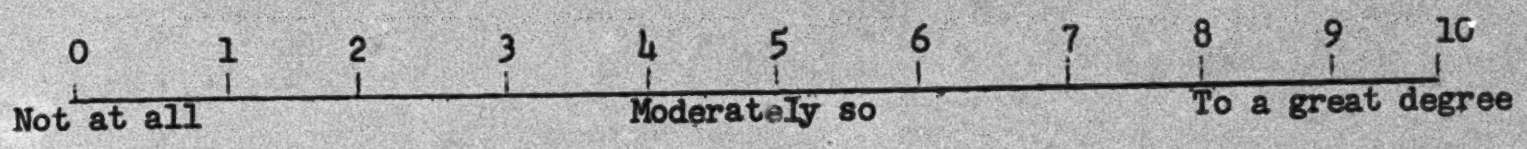
To the student: In this rating form you are asked to make evaluative judgments about today's class. The primary interest in asking you to do this is in order to compare different methods of instruction, rather than characteristics of the teacher.

Each item is rated on a scale which extends from the worst possible condition on the left to the best possible condition on the right. In answer to each item proposed about today's meeting, PUT A CIRCLE around the number that corresponds with your estimate.

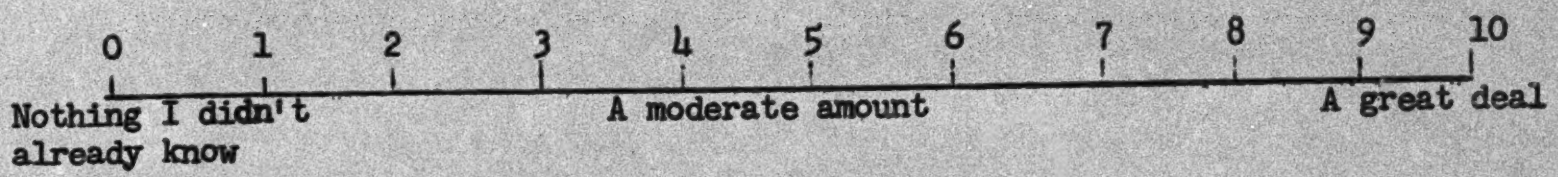
1. How much has today's class stimulated your interest in the course?



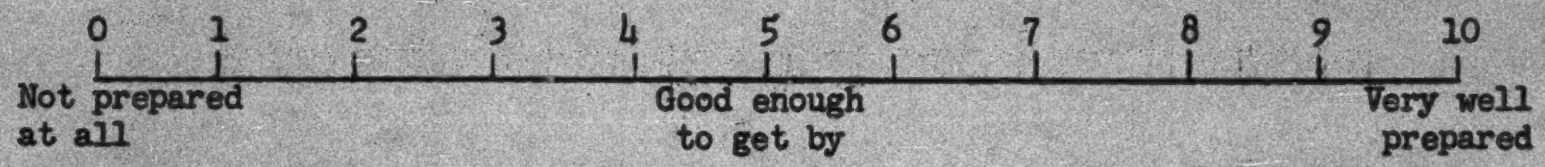
2. How much did today's class stimulate in you a sense of independence and responsibility in your own growth and learning?



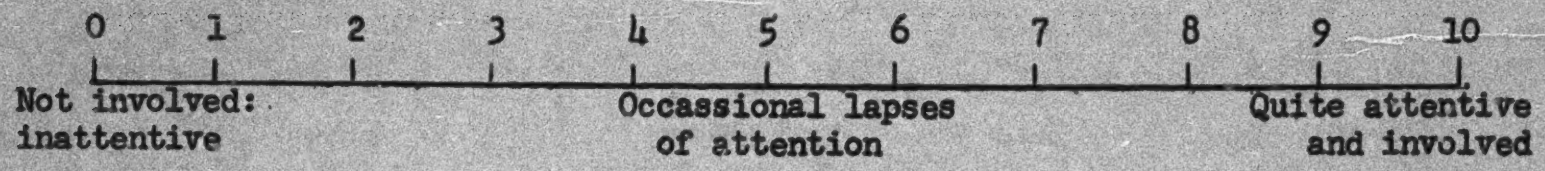
3. How much knowledge or information did you gain in today's class?



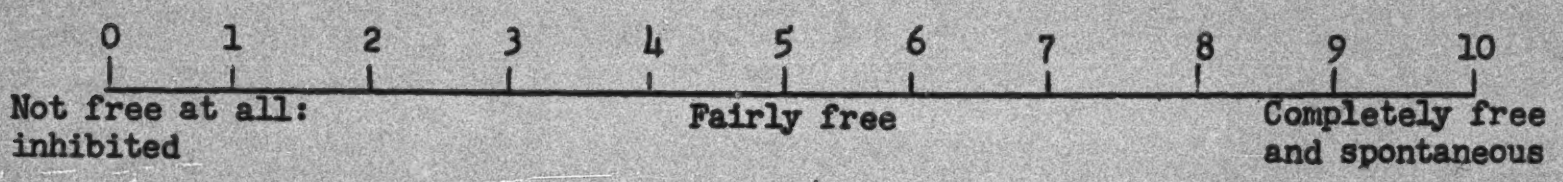
4. My own preparation for today's class was



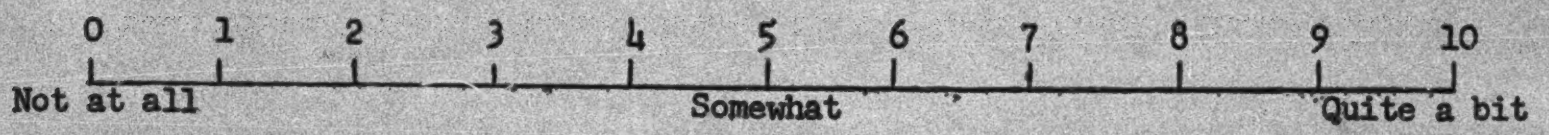
5. How would you rate your own active attention and involvement during today's class?



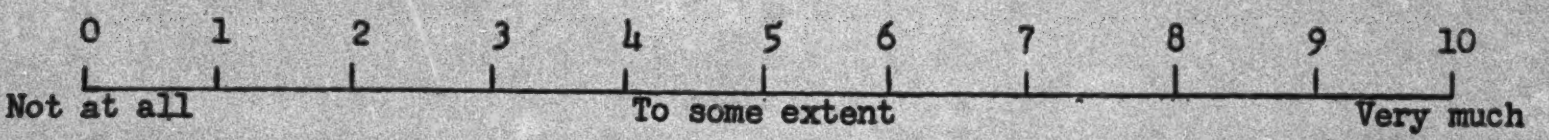
6. How free did you feel in today's class to ask questions, disagree or express your own ideas?



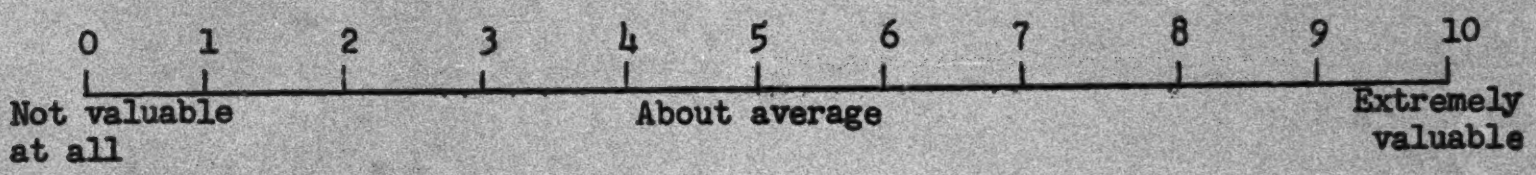
7. How much has today's class pointed out gaps and inadequacies in your comprehension of material?



8. To what extent did today's class encourage critical thinking in the solution of problems?



9. The overall value of today's class for me as a learning experience was



Please use this space to comment on any aspect of today's class or to make suggestions for improvement.

End of Course Questionnaire

INSTRUCTIONS

Your response to the questions on this form will provide us with valuable information regarding student opinion about the discussion (lab) periods. We are particularly interested in gathering your evaluations of the learning experience in using the method. Your answers will in no way influence your course grades; please be objective and open in your answers. The results of this questionnaire will not be made available to your instructor until after final grades are turned in to the registrar.

1.) What is your candid opinion about the effectiveness of the discussion (lab) period as compared with usual methods of instruction?

a. Main Advantages

b. Main Disadvantages

2.) Considering all factors, I would prefer to learn in courses which involve: (Check one)

_____Lectures by the instructor with no discussions of any kind.
_____Lectures by the instructor and class discussions led by the instructor.
_____Lectures by the instructor and occasional student-led discussion.
_____Lectures by the instructor and more frequent student-led discussion.
_____No lectures by instructor, with all student-led discussions.
_____Other (Specify)

_____

_____

3.) Circle the letter in front of those statements which describe the majority of discussions in which you were a participant. Circle the A in front of statements with which you agree, and the D where you disagree and the ? if you are unable to decide.

A ? D The discussions generally made me prepare more thoroughly than if I were attending a regular class meeting.

A ? D In relation to other methods, the discussion periods placed more emphasis on comprehension and understanding than on memorization.

A ? D In the process of discussing the materials with other students, my own ideas were often clarified.

A ? D Because of the discussions I was more actively involved in the learning.

A ? D In the discussion the students often misled one another.

A ? D The discussions have led to a greater interest in the subject matter.

A ? D A lecture period would be more valuable than a discussion period.

A ? D The discussions force you to think and organize ideas.

A ? D One advantage of the discussions is in the interaction with other students you get other points of view.

A ? D Because of the discussions I understood better subsequent class meetings and readings.

A ? D The discussions were helpful in preparing for the tests in the course.

A ? D As a result of the discussions I was better able to relate course knowledge to everyday experience.

A ? D The course probably would have been just as successful without the discussions.

A ? D A general problem in discussing with other students is discovering what parts of the material are most important.

A ? D One disadvantage in the discussions is arriving at incorrect conclusions.

Comment here on any of the above statements:_____

_____

_____

_____

INFORMATION:

TITLE OF COURSE_____SECTION_____

In how many discussions have you participated during the term?_____

Your cumulative grade point average:_____

Your last semester grade point average:_____

Thank you for your cooperation! Cooperative Research Project Staff

MANUAL

for

STUDENT-LED DISCUSSIONS *

ST. NORBERT COLLEGE

WEST DE PERE, WISCONSIN

* This work was supported in part by the Cooperative Research Branch, United States Office of Education, Contract OE-6-10-244.

MANUAL FOR STUDENT-LED DISCUSSIONS *

I. Introduction and Purpose

Previous research has indicated the value of group discussion as a learning technique. In contrast to passive attendance at lectures, group discussion encourages active participation in the learning process and makes use of principles of learning believed to be important in educational achievement, i.e., student motivation, organization of material to be learned, verbalization of concepts, feedback from the instructor, and increased responsibility for learning. The purpose of small, student-led discussions is to provide an atmosphere which allows these and related principles to operate. The success of the procedure, however, depends heavily upon the degree of responsibility for learning undertaken by the members of the group. The mere formation of a group does not guarantee its success. The purpose of this manual, therefore, is to suggest procedures for effective group discussions.

II. Procedures for effective group discussions

Previous experience has shown that a most important factor for successful group discussions is careful <u>preparation</u> by all members of the group. This preparation should go beyond the mere reading of material on the topic, and should include a critical examination of the concepts involved. As you read, you should keep in mind questions such as "What other aspects, or approaches are there to this question?", "Do I agree or disagree with what I have read?", "What different ways are there of looking at the matter?", "What else might be said about it?". By doing this you will be better prepared to discuss the topic, beyond giving a mere rehash of it. In response to course evaluation forms both students and teachers agreed that adequate preparation is essential for effective discussion.

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* Portions of this manual were taken from a similar manual prepared by Professor Clarence Leuba at Antioch College.

Inadequate preparation by some members destroys or diminishes the usefulness of the discussion. Also, when one or two members are prepared and the others are not, the prepared members become discouraged and lose interest.

A second important factor contributing to effective discussions is interaction, as contrasted with monologues. Interaction involves listening attentively to what another person has to say, drawing him out, and then reacting to what he has said in a manner which will further the understanding of the topic under discussion. If you do not understand what another student has said, or do not agree with what he has said, ask him to explain further or to give evidence supporting his position; otherwise, the meetings may become a jumble of the esoteric, of current fads, and of personal opinions, anecdotes and experiences.

Other helpful procedures are to restate what has been said in one's own words, and to inquire, "Is this what you mean?"; to make thinking more precise through illustrations from everyday experience; to seek implications and applications; to see a topic from as many angles as possible; to question the reliability of sources of information; not to be satisfied with incomplete answers; to summarize periodically and so on.

One of the important advantages in any type of student-directed learning is an increase in the student's responsibility for his own learning. Our experience has shown that this shift in responsibility does not automatically accompany the use of student-led discussions. Students who have for years depended on teachers to tell them the "right" answers find this increased responsibility difficult to accept. This is especially true at a college where the prevailing student culture does not encourage independent intellectual inquiry.

Some students are bothered by the absence of the instructor during the discussions, and feel uncertain and insecure with the procedure. Part of this feeling is related to the fear that students will mislead one another, reach

faulty or incorrect conclusions, or focus on the nonessentials in their group discussions. Experience with the discussion method has shown, however, that the advantages gained by the absence of the instructor (e.g., an increase in analytical and critical thinking, the assumption of more responsibility for one's own learning, less emphasis on memory and recall of facts, etc.) outweigh these feelings of uncertainty.

Further, more successful groups are characterized by flexibility and spontaneity; they are not formal and rigid; they modify the guide questions and depart from them without losing continuity and purposeful direction in the discussions.

Finally, a word about attendance. Since the effectiveness of the discussions depends upon the contribution of its members, the absence of one or two members will seriously affect the quality of the discussion. Also, from data gathered in the past years, there appears to be a positive relationship between the number of discussions attended and the final course grade.

In summarizing this section we can list several characteristics of the effective group member:

1. He is well prepared and makes relevant contributions to the discussions. (He has knowledge of the material and is willing to share it.)
2. He helps to clarify and elaborate concepts which are difficult. (He is able to translate concepts from the readings into his own words and explain them to the group.)
3. He seems to really understand a concept instead of just giving a memory definition of it. (He has insight or seems to be able to get to the heart of the matter.)
4. He applies concepts or material from the readings to familiar situations. (He illustrates or gives examples from everyday life which aid in your understanding of the material.

5. He is critical of incomplete or inaccurate contributions by others in the group. (He doesn't let a faulty or incomplete statement pass without challenging it; he also speaks up when something isn't clear to him.)
6. He brings together or helps to clarify what other members of the group are saying. ("It seems to me this is what we are saying.....")
7. He is an effective leader in keeping the discussion relevant, eliciting active involvement from the other members, and assisting in making the discussion useful. (He is able to lead the discussion without dominating it, and draws out reticent participants.)
8. He is able to successfully relate the new material to former concepts covered in this and other courses.

III. Conduct of the sessions

The discussions will take place on the scheduled day and hour in the booths located in rm. 206 Main Hall. You will be assigned to a group, and each group will be assigned to a specific booth.

The booths are specially ventilated so that once the discussion has begun, the door should be closed to provide a minimum of distraction to other booths.

If a discussion leader has been designated, he should see to it that the discussion begins with a minimum of delay. Although it is his responsibility to keep the discussion moving, the other members should also assume leadership functions, so that the leader no longer has to perform them all himself. The group leader is, of course, <u>not</u> an instructor; it is not his duty to dispense knowledge or to answer questions. He is responsible only for well-organized, effective exam-

ination by group members of questions pertinent to the discussion.

It is everyone's responsibility, and not alone that of the leader, to help in drawing out the other members of the group, to restate what has been said to be sure it is clear and understood, to challenge faulty or incomplete statements, to keep the group working on the topic and not diverted into irrelevant matters, and to see that what has been accomplished is summarized periodically.

Don't hesitate to ask what might appear to be simple or naive questions to which many people might take a pat answer for granted. Such questions, provided the questioner has a good factual background, are often basic ones, need to be asked, and stimulate a questioning of ordinarily-made assumptions. Don't leave a topic without first inquiring: "Is there anything else someone wants to say about this topic?"

Should you desire to call the instructor during the discussion simply depress the lever on the speaker while announcing your booth letter, then release the lever.